

ABSTRACT OF THE DISCLOSURE

[0074] Method and apparatus for the extracorporeal treatment of blood by utilizing a peripherally inserted catheter assembly for the continuous removal of blood for renal replacement treatment, in particularly, treatment of congestive heart failure and fluid overload by ultrafiltration. A catheter is inserted in a peripheral vein and maneuvered upward through the vascular system to access the reservoir of blood in the large or great veins for continuous blood withdrawal and treatment. Air-tight connectors are incorporated in the catheter assembly to overcome the untoward effects of negative pressure in blood withdrawal.